# State of Montana 401(a) Plan

# Investment Performance Evaluation Report

As of September 30, 2016

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# Introduction

This report reviews the investment performance of the State of Montana's 401(a) Plan for the quarter ending September 30, 2016, as well as other periods ending on that date. While the most recent quarter is the focus point of this report, we recommend concentration on longer time periods for the consideration of any changes to the investment policy or manager structure.

Performance measurement in this report is designed to:

- Provide an understanding of the environment in which the funds were managed;
- Verify that the assets were managed in compliance with guidelines;
- Assess the managers' strengths, continuity of style, and the means of achieving the performance; and
- Serve as a communications tool for internal focus, as well as to fulfill fiduciary obligations.

This report is based upon data provided by The State of Montana, Morningstar, Empower and fund management firms.

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# Plan Overview

#### **Net Assets**

• Plan assets totaled \$161.7 million, as of September 30, 2016. This is up from \$154.3 million, as of June 30, 2016.

#### **Asset Allocation**

• Plan assets were allocated 8% to the Stable Value fund, 2% to Bond funds, 54% to Target Date/Balanced funds, 29% to U.S. Equity funds, and 7% to International Equity funds.



### **Fund Overview**

				Date of	Inception
Asset Class	Fund	Ticker	Recommendation	Status Change	Date
Stable Value	State of Montana Stable Value	-	Retain		Sep-13
Fixed Income	Prudential Total Return Bond Q	PTRQX	Retain		Jul-14
Fixed Income	Neuberger Berman High Income Bond Instl	PTRQX	Retain		Oct-15
Balanced	Vanguard Balanced Index Instl	VBAIX	Retain		May-05
Target Date	T. Rowe Price Retirement Balanced	TRRIX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2005	TRRFX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2010	TRRAX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2015	TRRGX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2020	TRRBX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2025	TRRHX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2030	TRRCX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2035	TRRJX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2040	TRRDX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2045	TRRKX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2050	TRRMX	Retain		Oct-11
Target Date	T. Rowe Price Retirement 2055	TRRNX	Retain		Oct-11
Large Value	Vanguard Equity-Income Adm	VEIRX	Retain		Jul-02
Large Blend	BlackRock Equity ldx - Collective F	-	Retain		Apr-05
Large Blend	JPMorgan US Equity R5	JUSRX	Retain		May-11
Large Growth	Alger Capital Appreciation Z	ACAZX	Retain		Apr-12
Mid Value	MFS Mid Cap Value R6	MVCKX	Retain		Jun-13
Mid Growth	Victory Munder Mid-Cap Core Growth A	MGOAX	Probation	May-15	Jun-06
Small Value	Prudential QMA Small Cap Value Z	TASVX	Retain		Oct-08
Small Blend	Vanguard Small Cap Index Instl	VSCIX	Retain		Jul-02
Small Growth	Vanguard Small Cap Growth Index Instl	VSGIX	Retain		Sep-10
International	American Funds New Perspective R6	RNPGX	Retain		Jun-02
International	Oakmark International I	OAKIX	Retain		Sep-03
International	Vanguard Total Intl Stock Index Adm	VTIAX	Retain		Sep-10
International	Oppenheimer Developing Markets Y	ODVYX	Retain		Nov-12



### **Asset Allocation**

# of			%of	# of
Options	Options	Plan Assets	Plan	Participants
1	State of Montana Stable Value	\$13,201,050	8.2%	
	Total Stable Value Fund	\$13,201,050	8%	
_	Prudential Total Return Bond Q	\$2,928,025		376
2	Neuberger Berman High Income Bond Instl	\$168,240		25
	Total Bond Funds	\$3,096,266		
	Vanguard Balanced Index Instl	\$66,589,046		
	T. Rowe Price Retirement Balanced	\$73,544		
	T. Rowe Price Retirement 2005	\$698,395	<1%	
	T. Rowe Price Retirement 2010	\$146,471	<1%	
	T. Rowe Price Retirement 2015	\$437,658	<1%	
	T. Rowe Price Retirement 2020	\$1,154,888	<1%	91
13	T. Rowe Price Retirement 2025	\$2,515,434	1.6%	132
	T. Rowe Price Retirement 2030	\$2,058,430	1.3%	127
	T. Rowe Price Retirement 2035	\$3,564,779	2.2%	177
	T. Rowe Price Retirement 2040	\$2,492,115	1.5%	167
	T. Rowe Price Retirement 2045	\$3,470,489	2.1%	237
	T. Rowe Price Retirement 2050	\$2,887,127	1.8%	225
	T. Rowe Price Retirement 2055	\$1,339,799	<1%	160
	Total Target Date/Balanced Funds	\$87,428,174	54%	
	Vanguard Equity-Income Adm	\$7,623,953	4.7%	472
	BlackRock Equity ldx - Collective F	\$2,888,824	1.8%	238
	JPMorgan US Equity R5	\$3,150,698	1.9%	273
	Alger Capital Appreciation Z	\$10,024,235	6.2%	527
9	MFS Mid Cap Value R6	\$6,200,471	3.8%	476
9	Victory Munder Mid-Cap Core Growth A	\$3,641,648	2.3%	359
	Prudential QMA Small Cap Value Z	\$3,541,806	2.2%	320
	Vanguard Small Cap Index Instl	\$4,302,013	2.7%	371
	Vanguard Small Cap Growth Index Instl	\$4,732,165	2.9%	431
	Total U.S. Equity Funds	\$46,105,812	29%	
	American Funds New Perspective R6	\$6,365,662	3.9%	482
	Oakmark International I	\$3,792,400	2.3%	383
4	Vanguard Total Intl Stock Index Adm	\$1,305,012	<1%	210
	Oppenheimer Developing Markets Y	\$434,169	<1%	95
	Total International Equity Funds	\$11,897,244	7%	
	TOTAL	\$161,728,545		



#### Range of Investment Options

Lower Expected Risk/ **Higher Expected Risk/ Lower Expected Return Higher Expected Return** Fixed Income/ Target Date/ Global/ **Domestic Equity Stable Value** Other Int'l Equity **Bond** Balanced 1. State of Montana 1. Prudential 1. Vanguard 1. American Stable Value Total Return Balanced Idx **Funds New** Large Value Large Blend Large Growth Bond Q Instl Perspective R6 2. T. Rowe 1. Vanguard 1. JPMorgan 1. Alger Capital 2. Oakmark Intl I 2. Neuberger Berman High Price Equity Income US Equity R5 Appreciation Z Income Bond Retirement Adm Instl Series (12) 2. BlackRock 3. Vanguard Equity Idx -Total Intl Stock Collective F ldx Adm 4. Oppenheimer Developing Mkts Mid Value **Mid Blend Mid Growth** Υ 1. MFS Mid Cap 1. Victory Value R6 Munder Mid Cap Core Growth A **Small Value Small Blend Small Growth** 1. Prudential 1. Vanguard 1. Vanguard QMA Small Cap Small Cap Idx Small Cap Value Z Growth Idx Instl Instl



As of September 30, 2016

	YTD	(	periods lor	Standard	Expense					
Fund/Benchmark	10/12/16	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
State of Montana Stable Value (net)	-	0.47	4.31	3.71	2.31	2.15	4.10	-	-	0.40
Barclays US Govt/Credit Interm +0.35%	-	0.25	4.50	3.87	3.15	2.80	4.52	-	-	_
Prudential Total Return Bond Q	7.34	1.41	8.08	7.27	5.33	5.14	6.37	3.18	3.59	0.46
Barclays US Agg Bond	5.10	0.46	5.80	5.19	4.03	3.08	4.79	2.61	2.66	-
Avg Intermediate-Term Bond	5.42	0.98	5.96	5.27	3.72	3.44	4.53	2.63	2.83	0.81
Neuberger Berman High Income Bond Instl	13.58	5.24	13.12	11.17	4.23	7.43	7.56	5.77	6.21	0.69
BofAML US HY Master II Constnd	15.84	5.49	15.32	12.82	5.28	8.24	7.68	6.13	6.15	_
Avg High Yield Bond	11.82	4.70	11.45	9.13	3.76	7.05	6.15	5.58	5.96	1.08

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks





	YTD	(1	periods lon	ger than 1	year are a	nnualized)		Standard Deviation				
Fund/Benchmark	10/12/16	3 Months	YTD	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	Expense Ratio		
T. Rowe Price Retirement Balanced	5.85	2.58	6.96	8.74	4.49	6.85	5.00	4.95	5.58	0.57		
DJ Target Today	4.58	1.17	5.68	6.05	3.21	3.55	4.53	2.72	3.03	-		
Avg Allocation - 30% to 50% Equity	5.88	2.41	6.82	8.08	4.07	6.68	4.51	5.42	5.78	1.21		
T. Rowe Price Retirement 2005	6.52	2.76	7.64	9.54	5.07	7.65	5.30	5.18	5.97	0.60		
DJ Target 2005	4.58	1.17	5.69	6.06	3.23	3.66	4.50	2.74	3.10	-		
Avg Target Date 2000-2010	5.42	2.43	6.42	8.07	4.35	6.86	4.04	5.02	5.61	0.78		
T. Rowe Price Retirement 2010	6.64	3.00	7.82	9.98	5.43	8.50	5.40	5.72	6.71	0.59		
DJ Target 2010	5.03	1.28	6.23	6.67	3.56	4.34	4.53	3.03	3.44	-		
Avg Target Date 2000-2010	5.42	2.43	6.42	8.07	4.35	6.86	4.04	5.02	5.61	0.78		
T. Rowe Price Retirement 2015	6.43	3.44	7.68	10.49	5.88	9.62	5.71	6.64	7.70	0.62		
DJ Target 2015	6.49	1.66	7.97	8.63	4.34	5.58	4.77	3.70	4.20	-		
Avg Target Date 2015	5.41	2.70	6.47	8.44	4.55	7.77	4.70	5.72	6.52	0.80		
T. Rowe Price Retirement 2020	6.25	4.03	7.62	11.09	6.29	10.65	5.89	7.53	8.64	0.66		
DJ Target 2020	6.68	2.13	8.18	9.38	4.84	6.87	5.06	4.53	5.27	-		
Avg Target Date 2020	5.43	2.89	6.60	8.69	4.60	7.67	4.26	6.01	6.68	0.89		
T. Rowe Price Retirement 2025	6.09	4.55	7.56	11.57	6.64	11.49	6.04	8.36	9.50	0.69		
DJ Target 2025	6.83	2.79	8.36	10.26	5.34	8.26	5.38	5.71	6.62	-		
Avg Target Date 2025	5.42	3.43	6.70	9.48	5.06	9.10	4.49	7.14	8.06	0.87		
T. Rowe Price Retirement 2030	5.91	4.93	7.43	11.93	6.91	12.24	6.17	9.04	10.22	0.72		
DJ Target 2030	6.80	3.51	8.36	11.07	5.76	9.55	5.65	7.09	8.06	_		
Avg Target Date 2030	5.56	3.77	6.99	10.23	5.23	9.40	4.46	8.04	8.74	0.93		





	YTD	(periods longer than 1 year are annualized)						Standard	Deviation	Expense
Fund/Benchmark	10/12/16	3 Months	YTD	1 Yr	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	
T. Rowe Price Retirement 2035	5.64	5.29	7.22	12.14	7.05	12.72	6.24	9.64	10.80	0.74
DJ Target 2035	6.78	4.16	8.37	11.78	6.01	10.59	5.84	8.40	9.37	-
Avg Target Date 2035	5.30	4.26	6.80	10.63	5.50	10.49	4.75	8.98	9.85	0.90
T. Rowe Price Retirement 2040	5.40	5.59	7.04	12.29	7.13	12.98	6.34	10.13	11.18	0.76
DJ Target 2040	6.77	4.68	8.37	12.32	6.19	11.32	6.00	9.45	10.36	-
Avg Target Date 2040	5.46	4.39	7.07	11.07	5.54	10.39	4.60	9.41	10.10	0.95
T. Rowe Price Retirement 2045	5.41	5.60	7.06	12.30	7.13	12.97	6.34	10.14	11.20	0.76
DJ Target 2045	6.76	5.04	8.38	12.67	6.28	11.68	6.12	10.10	10.91	-
Avg Target Date 2045	5.21	4.66	6.82	11.13	5.69	11.30	4.86	9.85	10.67	0.91
T. Rowe Price Retirement 2050	5.34	5.58	6.99	12.30	7.11	12.96	-	10.14	11.17	0.76
DJ Target 2050	6.77	5.18	8.40	12.79	6.29	11.71	6.13	10.31	11.04	-
Avg Target Date 2050	5.54	4.62	7.21	11.45	5.75	10.79	4.48	9.87	10.56	0.96
T. Rowe Price Retirement 2055	5.43	5.59	7.00	12.26	7.13	12.95	-	10.17	11.20	0.76
DJ Target 2055	6.77	5.18	8.40	12.79	6.29	11.71	6.14	10.31	11.04	-
Avg Target Date 2055	5.19	4.75	6.83	11.21	5.96	11.66	-	10.03	10.85	0.92
Vanguard Balanced Index Instl	6.33	2.82	7.54	11.18	7.98	11.02	6.80	6.54	6.83	0.07
Custom Vanguard Bal Index (1)	6.37	2.84	7.58	11.38	8.12	11.20	7.11	6.55	6.82	-
Avg Allocation - 50% to 70% Equity	5.25	3.11	6.37	9.07	5.41	9.22	5.16	7.30	7.80	1.19
Barclays US Agg Bond	5.10	0.46	5.80	5.19	4.03	3.08	4.79	2.61	2.66	-
S&P 500	6.47	3.85	7.84	15.43	11.16	16.37	7.24	10.83	11.12	-

<sup>(1)</sup> Reflect's fund's index changes over time. 60% DJ US Total Market Index/40% Barclays US Agg Float Adj Index since 1/14/13.





	YTD	(	periods lor	ger than 1	year are a	nnualized)		Standard	Deviation	Expense
Fund/Benchmark	10/12/16	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
Vanguard Equity-Income Adm	7.98	1.73	9.58	17.35	10.29	15.67	7.73	10.07	10.12	0.17
Russell 1000 Value	8.70	3.48	10.00	16.20	9.70	16.15	5.85	10.73	11.33	
Avg Large Value	6.65	3.70	7.84	13.08	7.70	14.02	5.40	11.13	11.62	1.10
BlackRock Equity Idx - Collective F	-	3.86	7.86	15.46	11.21	16.43	7.36	-	-	0.04
JPMorgan US Equity R5	4.65	5.18	5.67	13.26	10.47	16.59	8.53	11.63	12.33	0.56
S&P 500	6.47	3.85	7.84	15.43	11.16	16.37	7.24	10.83	11.12	-
Avg Large Blend	4.68	3.80	6.01	12.03	8.75	14.71	6.34	11.17	11.67	1.03
Alger Capital Appreciation Z	1.17	6.10	2.64	11.13	11.43	16.86	10.10	12.40	12.77	0.90
Russell 1000 Growth	4.40	4.58	6.00	13.76	11.83	16.60	8.85	11.44	11.65	
Avg Large Growth	1.94	5.59	3.45	10.46	9.23	14.98	7.52	12.28	12.86	1.17
MFS Mid Cap Value R6	9.32	4.37	10.63	13.79	9.21	16.79	7.97	11.53	11.87	0.81
Russell Mid Cap Value	11.43	4.45	13.72	17.26	10.49	17.38	7.89	11.11	11.83	
Avg Mid Value	8.83	5.05	10.24	13.24	7.34	14.92	6.87	11.98	12.86	1.20
Victory Munder Mid-Cap Core Growth A	2.65	2.92	4.43	5.86	5.88	13.34	7.21	12.02	12.99	1.32
Russell Mid Cap	7.78	4.52	10.26	14.25	9.70	16.67	8.32	11.37	12.21	-
Avg Mid Growth	2.93	4.81	4.93	8.41	6.40	13.89	7.39	12.92	13.70	1.27
Russell Mid Cap Growth	4.13	4.59	6.84	11.24	8.90	15.85	8.51	12.02	12.93	, –





	YTD	(	periods lon	ger than 1	year are a	nnualized)		Standard	Deviation	Expense
Fund/Benchmark	10/12/16	3 Months	YTD	1 Year	3 Years	5 Years	10 Years	3 Years	5 Years	
Prudential QMA Small Cap Value Z	13.58	8.36	13.70	17.75	6.78	14.74	7.91	14.31	14.14	0.73
Russell 2000 Value	13.90	8.87	15.49	18.81	6.77	15.45	5.78	13.77	14.24	-
Avg Small Value	11.03	7.29	12.26	14.51	5.72	14.56	6.43	13.56	14.34	1.34
Vanguard Small Cap Index Instl	9.26	6.15	11.49	14.96	7.93	16.72	8.45	12.91	13.93	0.07
Custom Vanguard SC Index (1)	9.24	6.15	11.47	14.93	7.91	16.68	8.35	12.92	13.92	-
Avg Small Blend	8.53	6.97	10.09	13.05	5.57	14.53	6.63	13.76	14.57	1.23
Vanguard Small Cap Growth Index Instl	6.58	6.67	9.19	13.05	5.99	15.66	8.99	13.48	14.65	0.07
Custom Vanguard SC Growth Index (2)	6.48	6.65	9.12	12.94	5.92	15.44	8.76	13.47	14.64	-
Avg Small Growth	5.39	8.22	7.39	10.47	5.09	14.42	7.56	15.13	15.49	1.32
American Funds New Perspective R6	2.22	5.78	4.14	11.26	7.36	13.31	7.06	11.15	11.83	0.45
MSCIACWI	4.97	5.30	6.60	11.96	5.17	10.63	4.34	11.34	12.29	-
Avg World Stock	3.94	5.42	5.78	10.57	4.66	10.83	4.58	11.59	12.63	1.28
Oakmark International I	1.26	13.28	1.40	6.66	-1.19	9.78	4.46	15.29	16.46	0.95
MSCI World Ex USA	0.84	6.29	3.12	7.16	0.33	6.89	1.88	12.47	13.98	-
Vanguard Total Intl Stock Index Adm	4.80	6.65	6.74	9.66	0.89	6.78	2.19	12.13	13.78	0.12
Custom Vanguard Intl Index (3)	4.19	6.93	6.07	9.90	0.91	6.54	2.22	12.54	14.11	-
Avg Foreign Large Blend	0.70	6.19	2.93	6.53	0.53	7.13	1.72	11.97	13.54	1.15
Oppenheimer Developing Markets Y	13.64	8.80	12.94	18.21	-1.25	4.95	6.73	15.23	16.05	1.05
MSCIEM	15.97	9.03	16.02	16.78	-0.56	3.03	3.95	16.37	17.35	-
Avg Diversified Emerging Mkts	13.83	7.60	14.34	15.24	-0.36	3.68	3.49	14.76	16.00	1.52

<sup>(1)</sup> Reflects changes to fund's index over time. Russell 2000 Index through 5/16/03; MSCI US Small Cap 1750 Index through 1/30/13; and the CRSP US Small Cap Index thereafter.





<sup>(2)</sup> Reflects changes to fund's index over time. S&P SmallCap 600 Grow th Index through 5/16/03; MSCI US Small Cap Grow th Index through 4/16/13; and the CRSP US Small Cap Grow th Index thereafter.

<sup>(9)</sup> Reflects changes to fund's index over time. MSCI EAFE & EM Index through 12/15/10; MSCI ACWI ex US Index through 6/02/13; and the FTSE Global All Cap ex US Index thereafter.

# Modern Portfolio Theory (MPT) Analytics

As of September 30, 2016

			5	- Year			10 Year
			Tracking	Information	Upside	Downside	Batting
Fund/Benchmark	Alpha	Beta	Error	Ratio	Capture	Capture	Average
Vanguard Equity-Income Adm	1.23	0.88	3.04	-0.23	93	88	43
Avg Large Value	-1.92	0.99	3.61	-0.69	94	109	43
JPMorgan US Equity R5	-1.10	1.09	2.46	0.09	104	110	62
Avg Large Blend	-1.66	1.02	2.64	-1.42	97	108	42
Alger Capital Appreciation Z	-0.75	1.09	4.27	0.11	104	106	54
Avg Large Growth	-2.12	1.07	4.83	-0.32	98	110	51
MFS Mid Cap Value R6	0.39	1.00	4.06	0.10	100	97	58
Avg Mid Value	-2.02	1.06	5.17	-0.27	99	112	51
Victory Munder Mid-Cap Core Growth A	-3.76	1.08	4.96	-0.61	91	108	51
Avg Mid Growth	-3.31	1.09	6.43	-0.39	95	112	52
Prudential QMA Small Cap Value Z	-3.10	1.13	6.65	-0.25	102	122	55
Avg Small Value	-2.70	1.10	7.65	-0.24	100	120	51
Vanguard Small Cap Index Instl	-1.54	1.14	6.02	0.06	107	117	58
Avg Small Blend	-3.25	1.13	7.51	-0.24	101	123	52
Vanguard Small Cap Growth Index Instl	-2.68	1.16	7.21	-0.10	105	121	58
Avg Small Growth	-3.46	1.15	8.92	-0.22	101	124	54
American Funds New Perspective R6	7.89	0.78	5.32	1.37	95	52	54
Avg World Stock	5.60	0.80	6.30	0.78	92	62	53
Oakmark International I	3.34	1.07	6.29	0.59	119	104	53
Vanguard Total Intl Stock Index Adm	0.93	0.96	2.12	0.35	99	94	48
Avg Foreign Large Blend	1.55	0.91	4.28	0.26	95	87	48
Oppenheimer Developing Markets Y	-1.06	1.04	6.17	-0.18	100	106	61
Avg Diversified Emerging Mkts	-1.98	1.00	7.56	-0.31	93	105	53

Reported modern portfolio theory (MPT) statistics are calculated with respect to the S&P 500 Index for domestic equity funds. Statistics are calculated relative to the MSCI EAFE Index for international equity funds.





#### Stable Value and Bond Funds

Annual Net-of-Fee Total Returns

Fund/Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
State of Montana Stable Value	0.84	2.15	-1.95	4.82	5.04	6.47	13.71	-3.45	9.35	4.48
Barclays US Govt/Credit Interm +0.35%	1.42	3.48	-0.51	4.24	6.15	6.24	5.59	5.43	7.74	4.43
Prudential Total Return Bond Q	0.09	7.25	-0.91	9.96	7.93	9.73	19.68	-3.55	5.42	4.39
Barclays US Agg Bond	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24	6.97	4.33
Avg Intermediate-Term Bond	-0.26	5.18	-1.42	7.01	5.86	7.72	13.97	-4.70	4.70	4.15
Neuberger Berman High Income Bond Instl	-4.77	1.51	7.57	14.64	3.12	14.71	52.16	-19.09	1.61	8.00
BofAML US HY Master II Constnd	-4.61	2.51	7.41	15.55	4.37	15.07	58.10	-26.11	2.53	10.76
Avg High Yield Bond	-4.01	1.11	6.90	14.67	2.83	14.24	46.70	-26.41	1.47	10.14

Green indicates fund outperformed both benchmarks / Blue indicates fund performed between benchmarks / Red indicates fund underperformed both benchmarks





# Target Date Funds

Fund/Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
T. Rowe Price Retirement Balanced	-0.74	3.91	9.15	10.05	1.43	10.10	22.07	-18.39	6.09	9.98
DJ Target Today	-0.63	3.86	1.41	5.44	5.26	8.53	10.83	-3.06	6.48	6.52
Avg Allocation - 30% to 50% Equity	-2.32	4.02	7.23	9.40	1.70	10.03	20.77	-18.61	4.53	8.16
T. Rowe Price Retirement 2005	-0.75	4.72	9.74	11.35	1.43	11.51	24.55	-22.24	6.67	11.50
DJ Target 2005	-0.63	3.92	1.54	5.66	5.15	8.90	11.89	-5.47	6.84	7.14
Avg Target Date 2000-2010	-1.18	4.10	8.30	9.61	0.91	10.68	22.42	-22.46	5.22	8.58
T. Rowe Price Retirement 2010	-0.76	4.99	11.93	12.44	0.54	12.70	27.95	-26.71	6.65	12.84
DJ Target 2010	-0.72	4.20	3.00	6.40	4.49	9.71	14.11	-10.81	7.73	7.90
Avg Target Date 2000-2010	-1.18	4.10	8.30	9.61	0.91	10.68	22.42	-22.46	5.22	8.58
T. Rowe Price Retirement 2015	-0.58	5.37	15.18	13.81	-0.32	13.79	31.35	-30.22	6.75	13.73
DJ Target 2015	-0.97	4.48	5.49	7.65	3.42	10.94	17.32	-16.65	7.78	9.49
Avg Target Date 2015	-1.34	4.48	9.65	10.65	-0.27	11.50	23.55	-27.76	5.84	11.13
T. Rowe Price Retirement 2020	-0.31	5.63	18.05	15.01	-1.20	14.74	34.19	-33.48	6.73	14.66
DJ Target 2020	-1.04	4.81	9.05	9.23	2.01	12.42	20.95	-22.31	8.11	11.85
Avg Target Date 2020	-1.57	4.72	11.57	11.68	-0.22	12.27	24.25	-29.46	6.02	11.95
T. Rowe Price Retirement 2025	-0.17	5.84	20.78	16.00	-2.06	15.37	36.29	-35.90	6.81	15.44
DJ Target 2025	-1.11	5.14	12.84	10.94	0.49	14.12	25.36	-27.61	8.31	13.75
Avg Target Date 2025	-1.59	5.07	15.30	13.03	-2.06	13.29	28.32	-34.15	6.52	14.16
T. Rowe Price Retirement 2030	-0.02	6.05	23.09	16.82	-2.70	16.01	37.99	-37.79	6.83	16.14
DJ Target 2030	-1.21	5.50	16.59	12.56	-1.20	15.67	29.50	-32.02	8.43	15.26
Avg Target Date 2030	-1.79	5.04	16.65	13.59	-2.26	13.47	28.87	-36.04	6.50	13.60



# Target Date Funds

Fund/Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
T. Rowe Price Retirement 2035	0.13	6.07	24.86	17.35	-3.26	16.34	39.04	-38.88	6.81	16.18
DJ Target 2035	-1.61	5.80	19.90	13.92	-2.62	16.89	32.71	-35.15	8.48	16.25
Avg Target Date 2035	-1.76	5.24	20.00	14.64	-3.51	14.28	30.06	-37.04	7.02	14.55
T. Rowe Price Retirement 2040	0.17	6.18	25.93	17.55	-3.49	16.51	39.07	-38.85	6.77	16.24
DJ Target 2040	-1.94	6.03	22.38	14.88	-3.59	17.67	34.64	-36.80	8.48	16.64
Avg Target Date 2040	-1.99	5.25	19.97	14.64	-3.49	14.37	30.90	-37.94	6.21	14.67
T. Rowe Price Retirement 2045	0.17	6.14	25.93	17.62	-3.47	16.44	39.10	-38.83	6.84	16.15
DJ Target 2045	-2.15	6.16	23.71	15.32	-3.99	17.95	35.09	-37.03	8.46	16.64
Avg Target Date 2045	-1.87	5.35	22.00	15.31	-4.10	14.60	30.88	-38.11	6.89	15.95
T. Rowe Price Retirement 2050	0.19	6.19	25.90	17.55	-3.36	16.41	38.92	-38.80	6.82	-
DJ Target 2050	-2.23	6.19	23.89	15.35	-4.00	17.95	35.09	-37.03	8.46	16.64
Avg Target Date 2050	-2.01	5.42	21.02	15.07	-3.82	14.53	32.02	-38.67	5.91	15.51
T. Rowe Price Retirement 2055	0.18	6.18	25.86	17.60	-3.35	16.41	38.97	-38.89	6.82	-
DJ Target 2055	-2.23	6.19	23.89	15.35	-4.00	17.95	35.09	-37.03	8.47	16.64
Avg Target Date 2055	-1.71	5.49	23.14	15.52	-4.13	14.45	32.20	-38.86	5.94	15.51
Vanguard Balanced Index Instl	0.52	10.00	18.11	11.51	4.31	13.34	20.18	-22.10	6.34	11.10
Custom Vanguard Bal Index	0.76	10.06	18.25	11.71	4.66	13.45	20.34	-20.94	6.53	11.17
Avg Allocation - 50% to 70% Equity	-1.93	6.21	16.48	11.72	-0.11	11.83	24.13	-28.00	5.99	11.29
Barclays US Agg Bond	0.55	5.97	-2.02	4.21	7.84	6.54	5.93	5.24	6.97	4.33
S&P 500	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	5.49	15.79



# Large and Mid-Cap Stock Funds

Fund/Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Vanguard Equity-Income Adm	0.86	11.38	30.19	13.58	10.69	14.99	17.26	-30.86	4.99	20.77
Russell 1000 Value	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85	-0.17	22.25
Avg Large Value	-4.05	10.21	31.21	14.57	-0.75	13.66	24.13	-37.09	1.42	18.15
BlackRock Equity ldx - Collective F	1.45	13.70	32.41	16.00	2.20	-	-	-	-	-
JPMorgan US Equity R5	0.84	13.95	36.07	17.40	-1.48	14.42	33.29	-34.51	10.49	17.36
S&P 500	1.38	13.69	32.39	16.00	2.11	15.06	26.46	-37.00	5.49	15.79
Avg Large Blend	-1.07	10.96	31.50	14.96	-1.27	14.01	28.17	-37.79	6.16	14.17
Alger Capital Appreciation Z	6.56	13.50	35.31	18.27	-0.69	12.15	48.45	-44.85	31.01	17.89
Russell 1000 Growth	5.67	13.05	33.48	15.26	2.64	16.71	37.21	-38.44	11.81	9.07
Avg Large Growth	3.60	10.00	33.92	15.34	-2.46	15.53	35.68	-40.67	13.35	7.05
MFS Mid Cap Value R6	-2.14	10.29	36.63	18.52	-2.04	27.08	39.75	-41.90	1.67	10.85
Russell Mid Cap Value	-4.78	14.75	33.46	18.51	-1.38	24.75	34.21	-38.44	-1.42	20.22
Avg Mid Value	-5.41	9.31	35.14	16.60	-3.96	21.92	35.41	-36.77	0.83	15.87
Victory Munder Mid-Cap Core Growth A	-4.60	9.90	33.38	15.72	-1.04	25.18	32.45	-43.57	20.64	11.58
Russell Mid Cap	-2.44	13.22	34.76	17.28	-1.55	25.48	40.48	-41.46	5.60	15.26
Avg Mid Growth	-0.95	7.00	34.93	14.07	-3.96	24.61	39.11	-43.77	15.09	9.00
Russell Mid Cap Growth	-0.20	11.90	35.74	15.81	-1.65	26.38	46.29	-44.32	11.43	10.66





# Small Cap and International Stock Funds

Fund/Benchmark	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Prudential QMA Small Cap Value Z	-7.04	5.89	35.87	14.14	-0.48	23.63	26.69	-27.45	0.52	17.72
Russell 2000 Value	-7.47	4.22	34.52	18.05	-5.50	24.50	20.58	-28.92	-9.78	23.48
Avg Small Value	-6.71	3.34	36.22	16.00	-4.45	26.17	31.32	-32.24	-6.08	16.27
Vanguard Small Cap Index Instl	-3.63	7.53	37.80	18.26	-2.65	27.95	36.40	-35.98	1.29	15.82
Custom Vanguard SC Index	-3.68	7.54	37.77	18.20	-2.75	27.82	36.15	-36.20	1.20	15.77
Avg Small Blend	-5.38	3.79	37.39	15.46	-4.07	25.61	31.80	-36.56	-1.10	15.03
Vanguard Small Cap Growth Index Instl	-2.52	4.04	38.20	17.68	-1.40	30.96	42.13	-39.91	9.78	12.09
Custom Vanguard SC Growth Index	-2.60	3.98	37.87	17.24	-1.64	30.58	41.79	-40.17	9.62	11.93
Avg Small Growth	-2.41	2.44	40.91	13.15	-3.55	26.98	35.46	-41.55	7.59	10.81
American Funds New Perspective R6	5.63	3.56	27.23	21.19	-7.33	13.11	37.73	-37.83	16.04	19.87
MSCIACWI	-2.36	4.16	22.80	16.13	-7.35	12.67	34.63	-42.19	11.66	20.95
Avg World Stock	-1.69	2.79	25.19	15.84	-7.93	13.74	35.27	-41.91	11.28	19.72
Oakmark International I	-3.83	-5.41	29.34	29.22	-14.07	16.22	56.30	-41.06	-0.51	30.60
MSCI World Ex USA	-3.04	-4.32	21.02	16.41	-12.21	8.95	33.67	-43.56	12.44	25.71
Vanguard Total Intl Stock Index Adm	-4.26	-4.17	15.14	18.21	-14.52	11.04	36.73	-44.10	15.52	26.64
Custom Vanguard Intl Index	-4.29	-3.39	15.76	17.04	-14.31	10.70	40.44	-45.52	15.85	27.25
Avg Foreign Large Blend	-1.59	-4.98	19.44	18.29	-13.97	10.24	31.24	-43.99	12.71	24.77
Oppenheimer Developing Markets Y	-13.84	-4.55	8.68	21.29	-17.85	27.39	82.10	-47.84	34.30	25.70
MSCIEM	-14.92	-2.19	-2.60	18.22	-18.42	18.88	78.51	-53.33	39.42	32.14
Avg Diversified Emerging Mkts	-13.79	-3.01	-0.14	18.15	-19.86	19.26	73.81	-54.44	36.68	32.06





# Peer Group Rankings

As of September 30, 2016

#### (yellow indicates fund performed above median in peer group)

(1=Best Ranking / 100 = Worst Ranking)

Fund Name	Morningstar Category	3 Mo	YTD	1 Yr	3 Yr	5 Yr	10 Yr
Prudential Total Return Bond Q	Intermediate-Term Bond	19	5	5	3	3	2
Neuberger Berman High Income Bond Instl	High Yield Bond	31	22	13	41	39	6
T. Rowe Price Retirement Balanced	Avg Allocation - 30% to 50% Equity	42	36	31	39	45	31
T. Rowe Price Retirement 2005	Target Date 2000-2010	33	5	7	19	30	3
T. Rowe Price Retirement 2010	Target Date 2000-2010	20	3	3	6	1	1
T. Rowe Price Retirement 2015	Target Date 2015	13	4	3	5	1	1
T. Rowe Price Retirement 2020	Target Date 2020	2	16	2	3	1	1
T. Rowe Price Retirement 2025	Target Date 2025	2	17	2	4	5	1
T. Rowe Price Retirement 2030	Target Date 2030	2	23	10	3	4	1
T. Rowe Price Retirement 2035	Target Date 2035	3	38	14	4	2	1
T. Rowe Price Retirement 2040	Target Date 2040	2	46	16	3	2	1
T. Rowe Price Retirement 2045	Target Date 2045	4	45	18	5	2	1
T. Rowe Price Retirement 2050	Target Date 2050	4	48	23	5	3	
T. Rowe Price Retirement 2055	Target Date 2055	5	47	23	9	4	
Vanguard Balanced Index Instl	Avg Allocation - 50% to 70% Equity	60	20	13	6	13	9





# Peer Group Rankings

As of September 30, 2016

#### (yellow indicates fund performed above median in peer group)

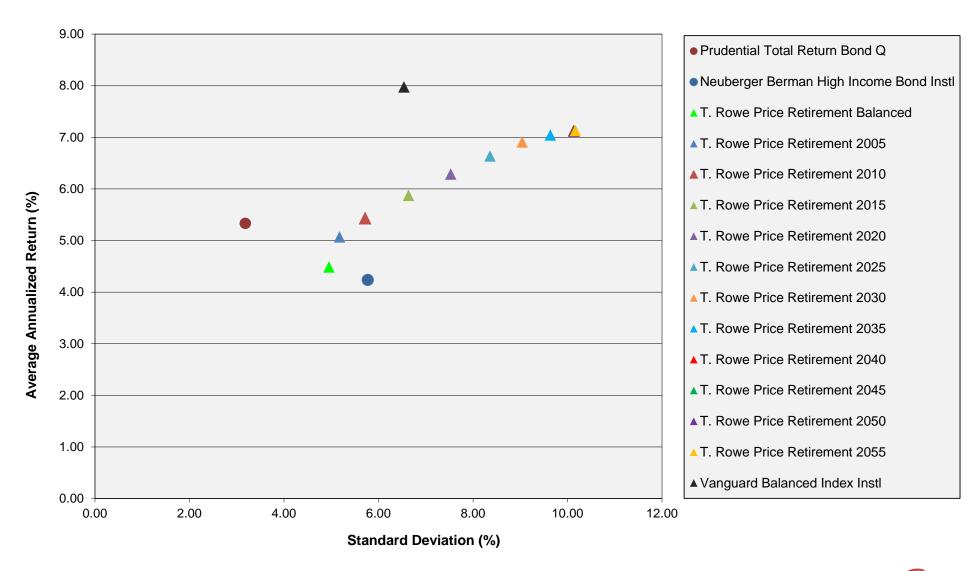
(1=Best Ranking / 100 = Worst Ranking)

Fund Name	Morningstar Category	3 Mo	YTD	1 Yr	3 Yr	5 Yr	10 Yr
Vanguard Equity-Income Adm	Large Value	85	26	11	8	16	4
JPMorgan US Equity R5	Large Blend	18	62	43	21	8	3
Alger Capital Appreciation Z	Large Growth	33	62	43	15	14	4
MFS Mid Cap Value R6	Mid-Cap Value	63	45	45	17	13	21
Victory Munder Mid-Cap Core Growth A	Mid-Cap Growth	82	59	74	60	60	58
Prudential QMA Small Cap Value Z	Small Value	22	36	27	37	50	13
Vanguard Small Cap Index Instl	Small Blend	69	32	36	18	20	11
Vanguard Small Cap Growth Index Instl	Small Growth	67	28	33	35	28	14
American Funds New Perspective R6	World Stock	42	67	37	12	14	5
Oakmark International I	Foreign Large Blend	1	68	42	83	6	6
Vanguard Total Intl Stock Index Adm	Foreign Large Blend	34	14	17	41	62	31
Oppenheimer Developing Markets Y	Diversified Emerging Mkts	35	62	25	64	27	2



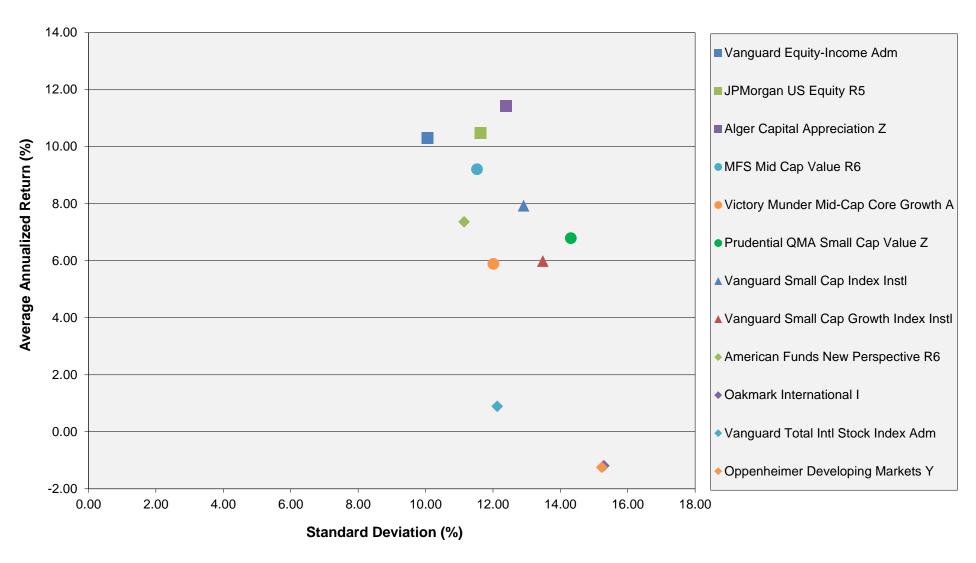


# Three Year Risk/Return Profile Bond and Target Date/Balanced Funds





# Three Year Risk/Return Profile Equity Funds





# Stable Value Performance as of September 30, 2016

					Annualized		Management	Wrap
	Quarter	YTD	1 Year	3 Years	5 years	10 years	Fees	Fees
Montana Stable Value (market, gross)	0.52	4.46	3.91	2.56	2.41	4.38	0.20	0.20
Barclays US Govt/Credit Interm +0.35%	0.25	4.50	3.87	3.15	2.80	4.52	-	-

## Stable Value Portfolio Characteristics as of September 30, 2016

	Yield-to Effective Effective Average Credit Qual			uality Di	ity Distribution (%)				
	Maturity (%) Duration Maturity		Credit	Investment Grade			High Yield		
		(years)	(years)	Quality	AAA	AA	Α	BBB	Below BBB
Montana Stable Value	1.77	3.97	4.49	AA	61	4	18	17	0
Barclays US Govt/Credit Interm	-	6.72	8.99	AA	58	7	15	20	-

#### Market to Book Value Ratio

End of Month	Mar-14	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	Sep-15	Dec-15	Mar-16	Jun-16	Sep-16
Market-to-Book Value Ratio (%)	103.3	104.1	103.0	103.2	104.2	102.9	103.0	101.7	103.4	104.3	104.1
Value Ratio (%)	10010		100.0	100.2	10	10210	10010	.0	10011	10 110	10





### Fixed Income Portfolio Characteristics

Fund/Benchmark	Average Maturity (years)	Average Duration (years)	Average Credit Quality	Total Number of Holdings
Prudential Total Return Bond Q	7.8	5.8	BBB	2,178
BarCap Aggregate	7.8	5.5	AA	9,796
Avg Intermediate Term Bond	7.0	5.0	BBB	731
Neuberger Berman High Income Bond Instl	5.7	4.1	BB	418
Avg High Yield Bond	5.7	3.8	В	580

	Investment Grade				High Yield Bonds			Other
Fund/Benchmark	AAA	AA	Α	BBB	BB	В	Below B	NR/NA
Prudential Total Return Bond Q	34	8	21	20	11	5	0	2
BarCap Aggregate	71	4	11	14	0	0	0	0
Avg Intermediate Term Bond	47	8	18	20	3	1	1	1
Neuberger Berman High Income Bond Instl	6	0	0	11	48	26	8	0
Avg High Yield Bond	2	0	1	5	37	39	13	3





# **Equity Portfolio Style Characteristics**

As of September 30, 2016

Vanguard Equity-Income Adm

43	32	13
6	2	0
2	0	0

JPMorgan US Equity R5

21	26	40
4	5	4
0	0	0

Alger Capital Appreciation Z

8	21	56
1	5	7
1	0	2

MFS Mid Cap Value R6

1					
	8	6	8		
	23	27	13		
	5	7	2		

Victory Munder Mid-Cap Core Growth A

G	rowth	Α
2	0	14
8	26	41
3	5	1

Prudential QMA Small Cap Value Z

0	0	0
3	1	0
66	27	3

Vanguard Small Cap Index Instl

0	0	0
9	15	18
20	20	18

Vanguard Small Cap Growth Index

	111511	
0	0	0
3	14	29
5	15	33

American Funds New Perspective R6

10								
14	24	53						
1	3	5						
0	0	0						

Oakmark International I

53	21	15
6	1	4
0	0	0

Vanguard Total Intl Stock Index Adm

30	26	24
6	5	5
2	1	1

Oppenheimer
Developing
Markets Y

101	aincis	
11	34	47
4	1	3
0	0	0

**Style Legend** 

Large Value	Large Core	Large Grow th	> 50%	54
Mid Value	Mid Core	Mid Grow th	> 25%	27
Small Value	Small Core	Small Growth	> 10%	19





# **Equity Portfolio Characteristics**

E I/D I	Geo Avg Market Cap	P/E	P/B	Total Number of	% Assets in Top 10	Turnover	% Non-	% Emerging
Fund/Benchmark	\$MM	Ratio	Ratio	Holdings	Holdings	Ratio	US Equity	
Vanguard Equity-Income Adm	\$79,143	18.7	2.5	228	28	32	9	0
Russell 1000 Value	\$54,642	17.4	1.8	691	24			
Avg Large Value	\$80,265	17.8	2.1	-	33	60	5	0
JPMorgan US Equity R5	\$65,753	18.3	2.5	172	22	83	3	0
S&P 500	\$78,117	19.7	2.8	505	18			
Avg Large Blend	\$105,127	19.9	2.7	-	47	63	4	0
Alger Capital Appreciation Z	\$63,307	22.8	3.9	127	38	141	4	1
Russell 1000 Growth	\$62,144	23.1	5.4	604	25			
Avg Large Growth	\$87,975	26.7	4.9	-	47	65	5	1
MFS Mid Cap Value R6	\$9,125	19.7	2.0	158	11	36	1	0
Russell Mid Cap Value	\$10,245	18.3	1.8	564	7			
Avg Mid Value	\$9,644	17.5	1.8	-	15	61	5	0
Victory Munder Mid-Cap Core Growth A	\$9,486	21.1	2.8	84	19	40	1	0
Russell Mid Cap	\$10,613	21.1	2.5	799	4			
Avg Mid Blend	\$6,878	18.5	2.2	-	13	69	2	0
Russell Mid Cap Growth	\$11,060	25.4	5.0	468	9		1	0





# **Equity Portfolio Characteristics**

	Geo Avg			Total	% Assets in			
Fund/Benchmark	Market Cap \$MM	P/E Ratio	P/B Ratio	Number of Holdings	Top 10 Holdings	Turnover Ratio	% Non- US Equity	% Emerging Mkts Equity
Prudential QMA Small Cap Value Z	\$1,406	12.2	1.1	380	11	72	1	0
Russell 2000 Value	\$1,365	16.8	1.4	1,338	4			
Avg Small Value	\$2,629	19.1	1.6	-	22	78	2	0
Vanguard Small Cap Index Instl	\$3,137	21.0	2.2	1,462	3	11	1	0
CRSP US Small Cap	\$3,135	21.0	2.2	1,440	3			
Avg Small Blend	\$2,835	21.8	2.2	-	22	63	2	0
Vanguard Small Cap Growth Index Instl	\$3,264	25.7	3.2	699	6	23	0	0
CRSP US Small Cap Growth	\$3,263	25.7	3.2	682	6			
Avg Small Growth	\$3,010	26.1	3.6	-	25	77	3	0
American Funds New Perspective R6	\$55,163	23.1	3.2	337	22	27	44	5
MSCIACWI	\$46,366	18.0	2.0	2,470	9			
Avg World Stock	\$44,133	19.5	2.2	-	24	56	44	5
Oakmark International I	\$23,739	13.2	1.1	68	34	48	93	8
MSCI World Ex USA	\$30,758	16.8	1.6	1,021	11			
Vanguard Total Intl Stock Index Adm	\$19,373	15.7	1.5	6,005	8	3	96	16
FTSE Global All Cap ex US	\$19,303	15.7	1.5	5,763	8			
Avg Foreign Large Blend	\$34,290	16.7	1.7	_	15	60	92	6
Oppenheimer Developing Markets Y	\$22,611	21.7	2.9	94	35	36	90	76
MSCIEM	\$23,296	14.2	1.6	833	22			
Avg Diversified Emerging Mkts	\$20,206	15.4	2.0	_	22	73	95	70



# **Equity Portfolio Sector Allocations**

As of September 30, 2016

(yellow shading indicates largest sector allocation)

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Information Technology	Telecom Services	Utilities
Vanguard Equity-Income Adm	11.6	2.7	12.6	5.6	12.3	12.9	15.2	13.0	4.8	9.3
Russell 1000 Value	12.9	2.9	9.8	4.6	8.8	11.5	23.9	10.1	3.9	6.5
Avg Large Value	10.8	2.8	10.8	9.7	10.1	11.9	20.4	12.6	3.8	5.1
JPMorgan US Equity R5	7.3	2.8	10.3	15.1	6.5	15.3	15.5	22.2	1.6	2.7
S&P 500	7.3	2.9	9.7	12.5	9.9	14.7	12.8	21.2	2.6	3.3
Avg Large Blend	6.8	3.1	10.8	12.5	10.3	15.3	12.7	20.7	2.4	2.8
Alger Capital Appreciation Z	2.0	1.3	9.7	18.1	7.4	19.9	3.1	36.4	2.0	0.0
Russell 1000 Growth	0.6	3.6	10.5	20.6	10.0	16.9	2.7	30.9	1.2	0.1
Avg Large Growth	2.5	2.7	6.5	19.3	8.1	20.4	4.9	33.0	0.6	0.3
MFS Mid Cap Value R6	7.2	5.1	14.8	13.4	6.9	10.5	20.8	8.0	0.4	7.6
Russell Mid Cap Value	9.9	6.1	11.6	8.8	3.4	4.7	17.9	8.7	1.5	11.8
Avg Mid Value	8.6	6.9	14.3	12.5	4.6	7.6	20.5	10.8	0.7	7.0
Victory Munder Mid-Cap Core Growth A	4.0	6.0	12.6	17.2	6.3	10.6	21.4	15.3	1.8	4.9
Russell Mid Cap	6.0	5.6	12.7	15.6	5.3	10.0	11.9	14.7	1.0	6.4
Avg Mid Blend	4.6	8.6	14.0	13.2	4.7	9.6	14.3	17.4	0.7	4.4
Russell Mid Cap Growth	1.4	5.0	14.0	23.6	7.6	16.2	5.0	21.7	0.5	0.1





# **Equity Portfolio Sector Allocations**

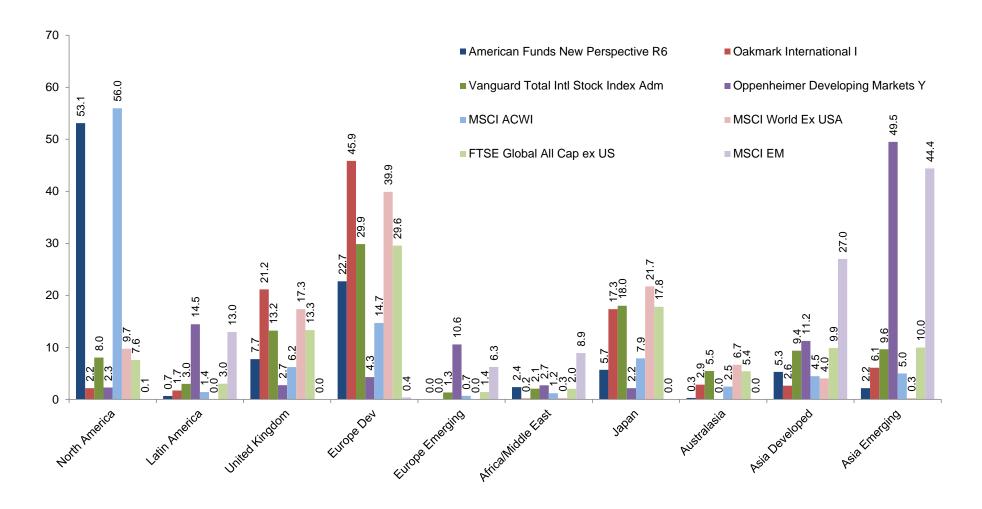
As of September 30, 2016

(yellow shading indicates largest sector allocation)

Fund/Benchmark	Energy	Materials	Industrials	Consumer Discretionary	Consumer Staples	Healthcare	Financials	Information Technology	Telecom Services	Utilities
Prudential QMA Small Cap Value Z	5.9	4.5	14.7	8.7	3.9	3.2	42.9	7.0	1.0	0.6
Russell 2000 Value	5.2	4.5	12.6	10.6	2.9	4.9	30.1	10.6	0.7	6.9
Avg Small Value	4.8	8.2	18.9	10.6	4.0	5.1	24.7	11.6	0.5	4.3
Vanguard Small Cap Index Instl	4.5	5.5	15.2	12.8	3.8	10.6	13.9	16.6	0.4	4.4
CRSP US Small Cap	4.5	5.5	15.2	12.8	3.8	10.6	14.0	16.6	0.4	4.4
Avg Small Blend	3.3	6.7	18.5	13.4	3.2	11.2	17.4	14.0	0.7	3.7
Vanguard Small Cap Growth Index Instl	3.5	2.6	13.0	15.6	3.3	16.2	5.9	22.9	0.3	1.1
CRSP US Small Cap Growth	3.5	2.6	13.0	15.6	3.3	16.2	5.9	22.9	0.3	1.1
Avg Small Growth	2.2	3.5	15.8	16.0	2.6	21.4	9.6	24.1	0.6	0.9
American Funds New Perspective R6	4.7	2.8	8.9	21.1	12.7	16.6	10.1	20.9	1.4	0.9
MSCI ACWI	6.8	5.1	10.4	12.3	10.4	11.7	16.9	15.9	3.8	3.3
Avg World Stock	5.1	3.9	9.7	13.1	11.5	13.5	14.4	18.7	3.6	3.3
Oakmark International I	0.0	10.1	20.3	26.1	4.3	0.0	32.5	6.8	0.0	0.0
MSCI World Ex USA	6.2	7.6	13.5	11.7	12.0	10.5	21.1	5.4	4.7	3.5
Vanguard Total Intl Stock Index Adm	6.3	8.2	13.4	12.0	10.6	8.8	20.1	8.8	4.5	3.4
FTSE Global All Cap ex US	6.3	8.1	13.2	11.9	10.5	8.7	20.6	8.7	4.4	3.4
Avg Foreign Large Blend	5.3	6.4	12.5	12.2	12.7	11.7	17.9	10.1	5.4	2.9
Oppenheimer Developing Markets Y	2.6	3.4	5.7	21.8	10.6	5.0	22.0	26.0	0.0	0.0
MSCIEM	7.2	6.4	5.9	10.6	7.8	2.6	23.7	24.0	6.1	2.9
Avg Diversified Emerging Mkts	5.6	5.8	5.7	11.7	12.4	3.7	22.4	21.7	5.4	2.4



## International Fund Regional Allocations







# **International Fund Country Allocations**

	Argentina	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Czech Republic	Denmark	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Malaysia	Mexico	Netherlands
American Funds New Perspective R6		0.3		0.2	0.2	1.1		0.4		5.7	1.3	3.8	1.8		2.1		1.5		0.7			5.7		0.4	3.3
MSCI ACWI		2.4		0.5	0.8	3.2	0.1	3.1		0.6	0.3	3.1	3.0		1.1		0.9	0.3		0.2	0.6	7.9	0.3	0.4	1.2
Oakmark International I		2.9						3.6				12.2	6.6					2.5		0.2	7.6	17.3		1.7	1.7
MSCI World Ex USA		6.5	0.2	1.2		8.7		0.2		1.7	0.9	8.4	8.3		2.8				0.2	0.3	1.6	21.7			3.2

	New Zealand	Norway	Pakistan	Philippines	Poland	Portugal	Russia	Singapore	Slovakia	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	Thailand	Turkey	United Kingdom	United States	Non-US	Venezuela	Vietnam	Lithuania	Latvia	Estonia
American Funds New Perspective R6		0.1						0.2		2.3	1.0	0.4	0.9	4.6	2.0			7.7	52.0	48.0					
MSCI ACWI		0.2		0.1	0.1		0.4	0.5		0.8	1.6	1.0	1.0	3.1	1.3	0.2	0.1	6.2	52.8	47.2					
Oakmark International I											1.9		4.5	13.2	0.8			21.2	2.2	97.8					
MSCI World Ex USA	0.2	0.6				0.1		1.1				2.7	2.5	8.2				17.3	1.1	98.8					





# **International Fund Country Allocations**

As of September 30, 2016

	Argentina	Australia	Austria	Belgium	Brazil	Canada	Chile	China	Czech Republic	Denmark	Finland	France	Germany	Greece	Hong Kong	Hungary	India	Indonesia	Ireland	Israel	Italy	Japan	Malaysia	Mexico	Netherlands
Vanguard Total Intl Stock Index Adm		5.2	0.2	1.0	1.7	6.9	0.2	4.7		1.3	0.8	6.1	6.1		1.6		2.5	0.5	0.2	0.2	1.5	18.0	0.8	0.9	1.7
FTSE Global All Cap ex US		5.1	0.2	1.0	1.7	6.8	0.2	5.1		1.3	0.8	6.0	6.1		2.2		2.5	0.6	0.2	0.2	1.5	17.8	0.8	0.9	1.7
Oppenheimer Developing Markets Y					7.9			25.1				2.8			3.8		15.7	2.3			1.4	2.2	2.1	4.5	
MSCIEM					7.4		1.1	27.0	0.2					0.3		0.3	8.5	2.7					2.7	3.7	

	New Zealand	Norway	Pakistan	Philippines	Poland	Portugal	Russia	Singapore	Slovakia	South Africa	South Korea	Spain	Sweden	Switzerland	Taiwan	Thailand	Turkey	United Kingdom	United States	Non-US	Venezuela	Vietnam	Lithuania	Latvia	Estonia
Vanguard Total Intl Stock Index Adm	0.3	0.5					0.8			l .										98.9					
FTSE Global All Cap ex US	0.3	0.5		0.4	0.3	0.1	0.8	1.0		1.5	3.5	2.0	2.1	6.0	3.1	0.6	0.3	13.3	0.7	99.3					
Oppenheimer Developing Markets Y				3.6	0.9		8.5	2.0			1.4			0.1	4.1	8.0	1.1	2.7	2.3	97.7					
MSCI EM				1.3	1.1		3.6			7.0	14.8				12.2	2.2	1.2			99.9					





#### **General Fund Information**

Fund Name	Manager	Average Tenure (years)	Longest Tenure (years)	Total Assets (\$MM)	Morningstar Rating Overall	Morningstar Analyst Rating	Prospectus Net Expense Ratio
Prudential Total Return Bond Q	Robert Tipp (4)*	7	14	\$24,859	****	Bronze	0.43
Neuberger Berman High Income Bond Instl	Thomas P. O'Reilly (4)*	5	11	\$4,151	***	Silver	0.69
T. Rowe Price Retirement Balanced	Jerome A. Clark (2)*	8	14	\$2,950	***		0.57
T. Rowe Price Retirement 2005	Jerome A. Clark (2)*	7	13	\$1,807	****	Silver	0.60
T. Rowe Price Retirement 2010	Jerome A. Clark (2)*	8	14	\$5,736	****	Silver	0.59
T. Rowe Price Retirement 2015	Jerome A. Clark (2)*	7	13	\$9,534	****	Silver	0.62
T. Rowe Price Retirement 2020	Jerome A. Clark (2)*	8	14	\$24,996	****	Silver	0.66
T. Rowe Price Retirement 2025	Jerome A. Clark (2)*	7	13	\$19,149	****	Silver	0.69
T. Rowe Price Retirement 2030	Jerome A. Clark (2)*	8	14	\$24,867	****	Silver	0.72
T. Rowe Price Retirement 2035	Jerome A. Clark (2)*	7	13	\$14,170	****	Silver	0.74
T. Rowe Price Retirement 2040	Jerome A. Clark (2)*	8	14	\$17,179	****	Silver	0.76
T. Rowe Price Retirement 2045	Jerome A. Clark (2)*	6	11	\$8,401	****	Silver	0.76
T. Rowe Price Retirement 2050	Jerome A. Clark (2)*	6	10	\$6,655	****	Silver	0.76
T. Rowe Price Retirement 2055	Jerome A. Clark (2)*	6	10	\$2,518	****	Silver	0.76
Vanguard Balanced Index Instl	Joshua C. Barrickman (4)*	1	4	\$29,772	****	Gold	0.07

<sup>\*</sup> Longest tenured manager listed with total number of fund managers listed in parentheses



#### **General Fund Information**

Fund Name	Manager	Average Tenure (years)	Longest Tenure (years)	Total Assets (\$MM)	Morningstar Rating Overall	Morningstar Analyst Rating	Prospectus Net Expense Ratio
Vanguard Equity-Income Adm	James P. Stetler (4)*	7	13	\$22,118	****	Silver	0.17
JPMorgan US Equity R5	Susan Bao (4)*	7	16	\$12,459	****	Silver	0.56
Alger Capital Appreciation Z	Patrick Kelly (2)*	7	12	\$2,444	****	Bronze	0.90
MFS Mid Cap Value R6	Brooks A. Taylor (2)*	8	8	\$5,429	***		0.77
Victory Munder Mid-Cap Core Growth A	Tony Y. Dong (6)*	7	16	\$4,853	***	Neutral	1.32
Prudential QMA Small Cap Value Z	Deborah D. Woods (4)*	2	2	\$1,391	***		0.73
Vanguard Small Cap Index Instl	Gerard C. O'Reilly (2)*	1	1	\$63,329	****	Gold	0.07
Vanguard Small Cap Growth Index Instl	Gerard C. O'Reilly (2)*	6	12	\$16,411	****	Silver	0.07
American Funds New Perspective R6	Robert W. Lovelace (7)*	11	16	\$56,878	****	Gold	0.45
Oakmark International I	David G. Herro (2)*	16	24	\$22,871	****	Gold	0.95
Vanguard Total Intl Stock Index Adm	Michael Perre (2)*	4	8	\$224,659	***	Gold	0.12
Oppenheimer Developing Markets Y	Justin M. Leverenz (2)*	5	9	\$29,755	****	Silver	1.05

<sup>\*</sup> Longest tenured manager listed with total number of fund managers listed in parentheses



# Fees and Revenue Sharing

Fund Name	Prospectus Net Expense Ratio	Revenue Sharing	Expense Ratio Net of Revenue Sharing	Morningstar Category Avg Expense Ratio
Prudential Total Return Bond Q	0.43	0.00	0.43	0.82
Neuberger Berman High Income Bond Instl	0.69	0.10	0.59	1.10
T. Rowe Price Retirement Balanced	0.57	0.15	0.42	1.21
T. Rowe Price Retirement 2005	0.60	0.15	0.45	0.78
T. Rowe Price Retirement 2010	0.59	0.15	0.44	0.78
T. Rowe Price Retirement 2015	0.62	0.15	0.47	0.80
T. Rowe Price Retirement 2020	0.66	0.15	0.51	0.89
T. Rowe Price Retirement 2025	0.69	0.15	0.54	0.87
T. Rowe Price Retirement 2030	0.72	0.15	0.57	0.93
T. Rowe Price Retirement 2035	0.74	0.15	0.59	0.90
T. Rowe Price Retirement 2040	0.76	0.15	0.61	0.95
T. Rowe Price Retirement 2045	0.76	0.15	0.61	0.91
T. Rowe Price Retirement 2050	0.76	0.15	0.61	0.96
T. Rowe Price Retirement 2055	0.76	0.15	0.61	0.92
Vanguard Balanced Index Instl	0.07	0.00	0.07	1.19
Vanguard Equity-Income Adm	0.17	0.00	0.17	1.09
JPMorgan US Equity R5	0.56	0.10	0.46	1.04
Alger Capital Appreciation Z	0.90	0.00	0.90	1.17
MFS Mid Cap Value R6	0.77	0.00	0.77	1.22
Victory Munder Mid-Cap Core Growth A	1.32	0.50	0.82	1.26
Prudential QMA Small Cap Value Z	0.73	0.05	0.68	1.35
Vanguard Small Cap Index Instl	0.07	0.00	0.07	1.24
Vanguard Small Cap Growth Index Instl	0.07	0.00	0.07	1.33
American Funds New Perspective R6	0.45	0.00	0.45	1.33
Oakmark International I	0.95	0.25	0.70	1.17
Vanguard Total Intl Stock Index Adm	0.12	0.00	0.12	1.17
Oppenheimer Developing Markets Y	1.05	0.25	0.80	1.52





#### Glossary of Investment Terms

**Alpha** is a measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta.

Average Credit Quality gives a snapshot of the portfolio's overall credit quality. It is an average of each bond's credit rating, adjusted for its relative weighting in the portfolio. For corporate bond and municipal bond funds, Morningstar also shows the percentage of fixed-income securities that fall within each credit-quality rating, as assigned by Standard & Poor's or Moody's. Because it's rare to find individual bonds in a portfolio with a rating below B, the average credit quality of bond funds in Morningstar's database ranges from AAA (highest) to B (lowest). AAA bonds carry the highest credit rating, while bonds issued by speculative companies usually carry the lowest credit ratings. For taxable bonds, anything at or below BB is considered a high-yield or junk bond. For the purpose of Morningstar's calculations, U.S. government bonds are considered AAA and other nonrated bonds generally are considered B.

**Average Duration** is a measure of a fund's interest-rate sensitivity. The longer a fund's duration, the more sensitive the fund is to shifts in interest rates. Duration is determined by a formula that includes coupon rates and bond maturities. Small coupons tend to increase duration, while shorter maturities and higher coupons shorten duration.

**Average Maturity** is a weighted average of all the maturities of the bonds in a portfolio, computed by weighting each bond's effective maturity by the market value of the security. Average effective maturity takes into consideration all mortgage prepayments, puts, and adjustable coupons. Longer-maturity funds are generally considered more interest-rate sensitive than their shorter counterparts.

**Batting Average** is a measure of a manager's ability to consistently beat the market. It is calculated by dividing the number of months in which the manager beat or matched an index by the total number of months in the period. For example, a manager who meets or outperforms the market every month in a given period would have a batting average of 100. A manager who beats the market half of the time would have a batting average of 50.

Beta is a measure of systematic risk with respect to a benchmark. Systematic risk is the tendency of the value of the fund and the value of benchmark to move together. Beta measures the sensitivity of the fund's excess return (total return minus the risk-free return) with respect to the benchmark's excess return that results from their systematic co-movement. It is the ratio of what the excess return of the fund would be to the excess return of the benchmark if there were no fund-specific sources of return. If beta is greater than one, movements in value of the fund that are associated with movements in the value of the benchmark tend to be amplified. If beta is one, they tend to be the same, and if beta is less than one, they tend to be dampened. If such movements tend to be in opposite directions, beta is negative. Beta is measured as the slope of the regression of the excess return on the fund as the dependent variable and the excess return on the benchmark as the independent variable. The beta of the market is 1.00 by definition. Morningstar calculates beta by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills, so a beta of 1.10 shows that the portfolio has performed 10% better than its benchmark in up markets and 10% worse in down markets, assuming all other factors remain constant.





**Downside Capture Ratio** measures a manager's performance in down markets relative to the market (benchmark) itself. For example, if the ratio is 90%, the manager has captured 90% of the down-market and outperformed the market on the downside.

**Geometric Average Market Cap** provides a measure of the size of the companies in which the fund invests. It is the weighted mean of the market capitalizations of the stocks in the fund's portfolio and is calculated by raising the market capitalization of each stock to a power equal to that stock's stake in the portfolio. The resulting numbers are multiplied together to produce the geometric mean of the market caps of the stocks in the portfolio, which is reported as average market capitalization.

**Information Ratio** is a risk-adjusted performance measure. The information ratio is a special version of the Sharpe Ratio in that the benchmark is typically the fund's performance benchmark instead of the risk free rate. A higher information ratio indicates higher active returns per unit of active risk while a lower information ratio may indicate low levels of active returns, high levels of active risk or both.

**P/B Ratio** is the weighted average of the price/book ratios of all the stocks in a portfolio. The P/B ratio of a company is calculated by dividing the market price of its stock by the company's per-share book value. Stocks with negative book values are excluded from this calculation. In theory, a high P/B ratio indicates that the price of the stock exceeds the actual worth of the company's assets, while a low P/B ratio indicates that the stock is a bargain. In practice, book value is an accounting number and for a variety of reasons may not reflect the actual value assigned to a company or security by market participants.

**P/E Ratio** is the weighted average of the price/earnings ratios of all the stocks in a portfolio. A fund's price/earnings ratio can act as a gauge of the fund's investment strategy in the current market climate, and whether it has a value or growth orientation. Companies in those industries enjoying a surge of popularity tend to have high P/E ratios, reflecting a growth orientation. More staid industries tend to have low P/E ratios, reflecting a value orientation. Morningstar generates this figure in-house on a monthly basis, based on the most-recent portfolio holdings submitted by the fund and stock statistics gleaned from our internal U.S. equities databases. Negative P/Es are not used, and any P/E greater than 60 is capped at 60 in the calculation of the average.

**Peer Group Ranking** is the fund's total-return percentile rank relative to all funds that have the same Morningstar Category. Morningstar categorizes funds based on their portfolio holdings (portfolio statistics and compositions over the past 3 years). The highest (or most favorable) percentile rank is 1 and the lowest (or least favorable) percentile rank is 100. The top-performing fund in a category will always receive a rank of 1.

**Sharpe Ratio** is a risk-adjusted measure developed by Nobel Laureate William Sharpe. It is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe Ratio, the better the fund's historical risk-adjusted performance. The Sharpe ratio is calculated for the past 60-month period by dividing a fund's annualized excess returns by the standard deviation of a fund's annualized excess returns. Since this ratio uses standard deviation as its risk measure, it is most appropriately applied when analyzing a fund that is an investor's sole holding. The Sharpe Ratio can be used to compare two funds directly on how much risk a fund had to bear to earn excess return over the risk-free rate.

**Standard Deviation** is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time. Investors use the standard deviation of historical performance to try to predict the range of returns that are most likely





for a given fund. When a fund has a high standard deviation, the predicted range of performance is wide, implying greater volatility.

**Total Return** is determined by taking the change in net asset value, reinvesting all income and capital-gains distributions, and dividing by the starting net asset value (NAV). Reinvestments are made using the actual reinvestment NAV, and daily payoffs are reinvested monthly. Total return is expressed as a percentage.

**Tracking Error** is a measure of the volatility of excess returns relative to a benchmark.

**Turnover Ratio** is a measure of the fund's trading activity which is computed by taking the lesser of purchases or sales (excluding all securities with maturities of less than one year) and dividing by average monthly net assets. A turnover ratio of 100% or more does not necessarily suggest that all securities in the portfolio have been traded. In practical terms, the resulting percentage loosely represents the percentage of the portfolio's holdings that have changed over the past year. A low turnover figure (20% to 30%) would indicate a buy-and-hold strategy while a high turnover (more than 100%) would indicate an investment strategy involving considerable buying and selling of securities.

**Upside Capture Ratio** measures a manager's performance in up markets relative to the market (benchmark) itself. For example, if the ratio is 110%, the manager has captured 110% of the up-market and outperformed the market on the upside.



#### **Sector Definitions**

**Energy Sector:** The Energy Sector comprises companies whose businesses are dominated by either of the following activities: The construction or provision of oil rigs, drilling equipment and other energy related service and equipment, including seismic data collection. Companies engaged in the exploration, production, marketing, refining, and/or transportation of oil and gas products, coal and other consumer fuels.

**Materials Sector:** The Materials Sector encompasses a wide range of commodity-related manufacturing industries. Included in this sector are companies that manufacture chemicals, construction materials, glass, paper, forest products and related packaging products, and metals, minerals and mining companies, including producers of steel.

**Industrials Sector:** The Industrials Sector includes companies whose businesses are dominated by one of the following activities: The manufacture and distribution of capital goods, including aerospace and defense, construction, engineering and building products, electrical equipment and industrial machinery. The provision of commercial services and supplies, including printing, employment, environmental and office services. The provision of transportation services, including airlines, couriers, marine, road and rail and transportation infrastructure.

**Consumer Discretionary Sector:** The Consumer Discretionary Sector encompasses those industries that tend to be the most sensitive to economic cycles. Its manufacturing segment includes automotive, household durable goods, textiles and apparel and leisure equipment. The services segment includes hotels, restaurants and other leisure facilities, media production and services, and consumer retailing and services.

**Consumer Staples Sector:** The Consumer Staples Sector comprises companies whose businesses are less sensitive to economic cycles. It includes manufacturers and distributors of food, beverages and tobacco and producers of non-durable household goods and personal products. It also includes food and drug retailing companies as well as hypermarkets and consumer super centers.

**Health Care Sector:** The Health Care Sector encompasses two main industry groups. The first includes companies who manufacture health care equipment and supplies or provide health care related services, including distributors of health care products, providers of basic health-care services, and owners and operators of health care facilities and organizations. The second regroups companies primarily involved in the research, development, production and marketing of pharmaceuticals and biotechnology products.

**Financials Sector:** The Financials Sector contains companies involved in activities such as banking, mortgage finance consumer finance, specialized finance, investment banking and brokerage, asset management and custody, corporate lending, insurance, and financial investment, and real estate, including REITs.

**Information Technology Sector:** The Information Technology Sector covers the following areas: firstly, Technology Software and Services, including companies that primarily develop software in various fields such as the Internet, applications, systems, database management and/or home entertainment, and companies that provide information technology consulting and services, as well as data processing and outsourced services; secondly, Technology Hardware and Equipment, including manufacturers and distributors of communications equipment, computers and peripherals, electronic equipment and related instruments; and thirdly, Semiconductors and Semiconductor Equipment Manufacturers.





**Telecommunications Services Sector:** The Telecommunications Services Sector contains companies that provide communications services primarily through a fixed-line, cellular, wireless, high bandwidth and/or fiber optic cable network.

**Utilities Sector:** The Utilities Sector encompasses those companies considered electric, gas or water utilities, or companies that operate as independent producers and/or distributors of power.



#### **Regional Definitions**

North America: United States and Canada

Emerging Central & Latin America: Mexico and Central and South America

United Kingdom: England, Northern Ireland, Scotland, Wales

Developed Europe: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain

**Emerging Europe:** Russia and other Eastern European countries

Africa/Middle East: Africa and Western Asian countries

Japan: Japan

Australasia: Australia and New Zealand

Developed Asia: Hong Kong, Singapore, South Korea

Emerging Asia: China, India, Indonesia, Malaysia, Philippines, Thailand

